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B. Noel Kivlin
Conley, Rose & Tayon, P.C.
P.O. Box 398
Austin, TX 78767-0398

EXAMINER	
CLEARY, THOMAS J	
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2111	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/755,499	BAILEY, JOSEPH A.	
	Examiner	Art Unit	
	Thomas J. Cleary	2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-9,11-17 and 19-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-9,11-17 and 19-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 May 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3, 7, 8, 9, 11, 15, 16, 17, 19, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Number 6,205,150 to Ruszczyk ("Ruszczyk"), US Patent Number 6,092,137 to Huang et al. ("Huang"), and the Free On-Line Dictionary of Computing ("FOLDOC").

3. In reference to Claim 1, Ruszczyk teaches a plurality of upstream buffers each configured to store a plurality of upstream packets (See Figure 4 Numbers 62 and 66, Column 3 Lines 16-19, and Column 3 Lines 50-58); a router coupled to each of said plurality of upstream buffers and configured to receive said plurality of packets and to route each of said plurality of packets to a given one of said upstream buffers depending upon the associated identifier (See Figure 4 Number 60, Column 3 Lines 55-58, Column 5 Lines 65-67, and Column 6 Lines 1-13); a plurality of upstream reorder logic circuits wherein each one of said plurality of upstream reorder logic circuits is

coupled to a corresponding one of said plurality of upstream buffers and is configured to determine an order of transmitting each of said packets stored in said corresponding one of said plurality of upstream buffers based on a set of predetermined criteria (See Figure 4 Numbers 64 and 68, Column 3 Lines 58-67, Column 5 Lines 65-67, and Column 6 Lines 1-13); and a transmitter unit coupled to said plurality of upstream reorder logic circuits (See Figure 4 Number 72, Column 6 Lines 1-5, and Column 6 Lines 19-22). Ruszczyk further teaches that the associated identifier used for sorting the packets is the priority of the packet (See Column 3 Lines 55-58). Ruszczyk does not teach that the associated identifier is indicative of the source of each of said plurality of upstream packets; and the transmitter unit configured to transmit one packet of said plurality of upstream packets stored within said plurality of upstream buffers dependent upon an order of receipt within said plurality of upstream buffers. Huang teaches a communications system in which each source is assigned a different priority, and thus the priority of the signal is an indication of the source of the signal (See Column 2 Lines 24-32). FOLDOC teaches using a FIFO queue to buffer a data stream between a sender and a receiver, and thus transmits the packets dependent on the order of receipt (See entry 'first-in first-out').

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the packet scheduling device of Ruszczyk with the priority based on source of Huang and the FIFO queue of FOLDOC, resulting in the invention of Claim 1, in order to insure that there is efficient utilization of the communication line and that each competing source has access to the communication

line (See Column 2 Lines 24-31 of Huang); and to allow communication between a sender and a receiver that are not synchronized (See entry 'first-in first-out' in FOLDOC). Because each source is assigned a different priority value, the priority value is indicative of the source of the packet, and thus the combined device of Ruszczyk, Huang, and FOLDOC, which sorts packets based on priority, will necessarily sort them by source as well.

4. In reference to Claim 3, Ruszczyk, Huang, and FOLDOC teach the limitations as in Claim 1 above. Ruszczyk further teaches a downstream buffer configured to store a plurality of downstream packets wherein each of said plurality of downstream packets contains an identifier with a corresponding value (See Figure 4 Numbers 62 and 66, Column 3 Lines 10-15, Column 3 Lines 50-58); and a downstream reorder logic circuit coupled to said downstream buffer and configured to determine an order of transmitting each of said plurality of downstream packets based on said set of predetermined criteria (See Figure 4 Numbers 64 and 68, Column 3 Lines 58-67, Column 5 Lines 65-67, and Column 6 Lines 1-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the packet scheduling device of Ruszczyk with the priority based on source of Huang and the FIFO queue of FOLDOC, resulting in the invention of Claim 3, in order to insure that there is efficient utilization of the communication line and that each competing source has access to the communication line (See Column 2 Lines 24-31 of Huang); and to allow communication between a

sender and a receiver that are not synchronized (See entry 'first-in first-out' in FOLDOC). Because each source is assigned a different priority value, the priority value is indicative of the source of the packet, and thus the combined device of Ruszczyk, Huang, and FOLDOC, which sorts packets based on priority, will necessarily sort them by source as well.

5. In reference to Claim 7, Ruszczyk, Huang, and FOLDOC teach the limitations as in Claim 1 above. Ruszczyk further teaches that the router is further configured to route upstream packets having associated identifiers with corresponding values to the same upstream buffer of said plurality of upstream buffers (See Figure 4, Column 3 Lines 55-58, and Column 6 Lines 10-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the packet scheduling device of Ruszczyk with the priority based on source of Huang and the FIFO queue of FOLDOC, resulting in the invention of Claim 7, in order to insure that there is efficient utilization of the communication line and that each competing source has access to the communication line (See Column 2 Lines 24-31 of Huang); and to allow communication between a sender and a receiver that are not synchronized (See entry 'first-in first-out' in FOLDOC). Because each source is assigned a different priority value, the priority value is indicative of the source of the packet, and thus the combined device of Ruszczyk, Huang, and FOLDOC, which sorts packets based on priority, will necessarily sort them by source as well.

6. In reference to Claim 8, Ruszczyk, Huang, and FOLDOC teach the limitations as in Claim 1 above. Ruszczyk further teaches that the router is further configured to route upstream packets having associated identifiers with different values to different upstream buffers of said plurality of upstream buffers (See Figure 4, Column 3 Lines 55-58, Column 5 Lines 65-67, Column 6 Line 1, and Column 6 Lines 10-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the packet scheduling device of Ruszczyk with the priority based on source of Huang and the FIFO queue of FOLDOC, resulting in the invention of Claim 8, in order to insure that there is efficient utilization of the communication line and that each competing source has access to the communication line (See Column 2 Lines 24-31 of Huang); and to allow communication between a sender and a receiver that are not synchronized (See entry 'first-in first-out' in FOLDOC). Because each source is assigned a different priority value, the priority value is indicative of the source of the packet, and thus the combined device of Ruszczyk, Huang, and FOLDOC, which sorts packets based on priority, will necessarily sort them by source as well.

7. In reference to Claim 9, Ruszczyk teaches a plurality of upstream buffers each configured to store a plurality of upstream packets (See Figure 4 Numbers 62 and 66, Column 3 Lines 16-19, and Column 3 Lines 50-58); a router coupled to each of said plurality of upstream buffers and configured to receive said plurality of packets and to

route each of said plurality of packets to a given one of said upstream buffers depending upon the associated identifier (See Figure 4 Number 60, Column 3 Lines 55-58, Column 5 Lines 65-67, and Column 6 Lines 1-13); a plurality of upstream reorder logic circuits wherein each one of said plurality of upstream reorder logic circuits is coupled to a corresponding one of said plurality of upstream buffers and is configured to determine an order of transmitting each of said packets stored in said corresponding one of said plurality of upstream buffers based on a set of predetermined criteria (See Figure 4 Numbers 64 and 68, Column 3 Lines 58-67, Column 5 Lines 65-67, and Column 6 Lines 1-13); and a transmitter unit coupled to said plurality of upstream reorder logic circuits (See Figure 4 Number 72, Column 6 Lines 1-5, and Column 6 Lines 19-22). Ruszczyk further teaches that the associated identifier used for sorting the packets is the priority of the packet (See Column 3 Lines 55-58). The device of Ruszczyk would inherently include a processor to control the device and a bus bridge coupled between the processor and the device to provide an interface for signals between the processor and the device. Ruszczyk does not teach that the associated identifier is indicative of the source of each of said plurality of upstream packets; and the transmitter unit configured to transmit one packet of said plurality of upstream packets stored within said plurality of upstream buffers dependent upon an order of receipt within said plurality of upstream buffers. Huang teaches a communications system in which each source is assigned a different priority, and thus the priority of the signal is an indication of the source of the signal (See Column 2 Lines 24-32). FOLDOC teaches

using a FIFO queue to buffer a data stream between a sender and a receiver, and thus transmits the packets dependent on the order of receipt (See entry 'first-in first-out').

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the packet scheduling device of Ruszczyk with the priority based on source of Huang and the FIFO queue of FOLDOC, resulting in the invention of Claim 9, in order to insure that there is efficient utilization of the communication line and that each competing source has access to the communication line (See Column 2 Lines 24-31 of Huang); and to allow communication between a sender and a receiver that are not synchronized (See entry 'first-in first-out' in FOLDOC). Because each source is assigned a different priority value, the priority value is indicative of the source of the packet, and thus the combined device of Ruszczyk, Huang, and FOLDOC, which sorts packets based on priority, will necessarily sort them by source as well.

8. In reference to Claim 11, Ruszczyk, Huang, and FOLDOC teach the limitations as in Claim 9 above. Ruszczyk further teaches a downstream buffer configured to store a plurality of downstream packets wherein each of said plurality of downstream packets contains an identifier with a corresponding value (See Figure 4 Numbers 62 and 66, Column 3 Lines 10-15, Column 3 Lines 50-58); and a downstream reorder logic circuit coupled to said downstream buffer and configured to determine an order of transmitting each of said plurality of downstream packets based on said set of predetermined criteria

(See Figure 4 Numbers 64 and 68, Column 3 Lines 58-67, Column 5 Lines 65-67, and Column 6 Lines 1-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the packet scheduling device of Ruszczyk with the priority based on source of Huang and the FIFO queue of FOLDOC, resulting in the invention of Claim 11, in order to insure that there is efficient utilization of the communication line and that each competing source has access to the communication line (See Column 2 Lines 24-31 of Huang); and to allow communication between a sender and a receiver that are not synchronized (See entry 'first-in first-out' in FOLDOC). Because each source is assigned a different priority value, the priority value is indicative of the source of the packet, and thus the combined device of Ruszczyk, Huang, and FOLDOC, which sorts packets based on priority, will necessarily sort them by source as well.

9. In reference to Claim 15, Ruszczyk, Huang, and FOLDOC teach the limitations as in Claim 9 above. Ruszczyk further teaches that the router is further configured to route upstream packets having associated identifiers with corresponding values to the same upstream buffer of said plurality of upstream buffers (See Figure 4, Column 3 Lines 55-58, and Column 6 Lines 10-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the packet scheduling device of Ruszczyk with the priority based on source of Huang and the FIFO queue of FOLDOC, resulting in the

invention of Claim 15, in order to insure that there is efficient utilization of the communication line and that each competing source has access to the communication line (See Column 2 Lines 24-31 of Huang); and to allow communication between a sender and a receiver that are not synchronized (See entry 'first-in first-out' in FOLDOC). Because each source is assigned a different priority value, the priority value is indicative of the source of the packet, and thus the combined device of Ruszczyk, Huang, and FOLDOC, which sorts packets based on priority, will necessarily sort them by source as well.

10. In reference to Claim 16, Ruszczyk, Huang, and FOLDOC teach the limitations as in Claim 9 above. Ruszczyk further teaches that the router is further configured to route upstream packets having associated identifiers with different values to different upstream buffers of said plurality of upstream buffers (See Figure 4, Column 3 Lines 55-58, Column 5 Lines 65-67, Column 6 Line 1, and Column 6 Lines 10-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the packet scheduling device of Ruszczyk with the priority based on source of Huang and the FIFO queue of FOLDOC, resulting in the invention of Claim 16, in order to insure that there is efficient utilization of the communication line and that each competing source has access to the communication line (See Column 2 Lines 24-31 of Huang); and to allow communication between a sender and a receiver that are not synchronized (See entry 'first-in first-out' in FOLDOC). Because each source is assigned a different priority value, the priority value

is indicative of the source of the packet, and thus the combined device of Ruszczyk, Huang, and FOLDOC, which sorts packets based on priority, will necessarily sort them by source as well.

11. In reference to Claim 17, Ruszczyk teaches receiving a plurality of upstream packets each containing an associated identifier (See Figure 4 Numbers 62 and 66, Column 3 Lines 16-19, and Column 3 Lines 50-58); examining the associated identifier and routing each of said plurality of packets to a given upstream buffer of a plurality of upstream buffers depending upon the associated identifier (See Figure 4 Number 60, Column 3 Lines 55-58, Column 5 Lines 65-67, and Column 6 Lines 1-13); determining an order of transmitting each of said packets stored in each of said plurality of upstream buffers based on a set of predetermined criteria (See Figure 4 Numbers 64 and 68, Column 3 Lines 58-67, Column 5 Lines 65-67, and Column 6 Lines 1-13); and transmitting one of said plurality of upstream packets stored within said plurality of upstream buffers (See Figure 4 Number 72, Column 6 Lines 1-5, and Column 6 Lines 19-22). Ruszczyk further teaches that the associated identifier used for sorting the packets is the priority of the packet (See Column 3 Lines 55-58). Ruszczyk does not teach that the associated identifier is indicative of the source of each of said plurality of upstream packets; and transmitting one packet of said plurality of upstream packets stored within said plurality of upstream buffers dependent upon an order of receipt within said plurality of upstream buffers. Huang teaches a communications system in which each source is assigned a different priority, and thus the priority of the signal is an

indication of the source of the signal (See Column 2 Lines 24-32). FOLDOC teaches using a FIFO queue to buffer a data stream between a sender and a receiver, and thus transmits the packets dependent on the order of receipt (See entry 'first-in first-out').

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the packet scheduling method of Ruszczyk with the priority based on source of Huang and the FIFO queue of FOLDOC, resulting in the invention of Claim 17, in order to insure that there is efficient utilization of the communication line and that each competing source has access to the communication line (See Column 2 Lines 24-31 of Huang); and to allow communication between a sender and a receiver that are not synchronized (See entry 'first-in first-out' in FOLDOC). Because each source is assigned a different priority value, the priority value is indicative of the source of the packet, and thus the combined method of Ruszczyk, Huang, and FOLDOC, which sorts packets based on priority, will necessarily sort them by source as well.

12. In reference to Claim 19, Ruszczyk, Huang, and FOLDOC teach the limitations as in Claim 17 above. Ruszczyk further teaches storing a plurality of downstream packets in a downstream buffer wherein each of said plurality of downstream packets contains an identifier with a corresponding value (See Figure 4 Numbers 62 and 66, Column 3 Lines 10-15, Column 3 Lines 50-58); and determining an order of transmitting each of said plurality of downstream packets based on said set of predetermined criteria

(See Figure 4 Numbers 64 and 68, Column 3 Lines 58-67, Column 5 Lines 65-67, and Column 6 Lines 1-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the packet scheduling method of Ruszczyk with the priority based on source of Huang and the FIFO queue of FOLDOC, resulting in the invention of Claim 19, in order to insure that there is efficient utilization of the communication line and that each competing source has access to the communication line (See Column 2 Lines 24-31 of Huang); and to allow communication between a sender and a receiver that are not synchronized (See entry 'first-in first-out' in FOLDOC). Because each source is assigned a different priority value, the priority value is indicative of the source of the packet, and thus the combined method of Ruszczyk, Huang, and FOLDOC, which sorts packets based on priority, will necessarily sort them by source as well.

13. In reference to Claim 23, Ruszczyk, Huang, and FOLDOC teach the limitations as in Claim 17 above. Ruszczyk further teaches routing upstream packets having associated identifiers with corresponding values to the same upstream buffer of said plurality of upstream buffers (See Figure 4, Column 3 Lines 55-58, and Column 6 Lines 10-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the packet scheduling method of Ruszczyk with the priority based on source of Huang and the FIFO queue of FOLDOC, resulting in the

invention of Claim 23, in order to insure that there is efficient utilization of the communication line and that each competing source has access to the communication line (See Column 2 Lines 24-31 of Huang); and to allow communication between a sender and a receiver that are not synchronized (See entry 'first-in first-out' in FOLDOC). Because each source is assigned a different priority value, the priority value is indicative of the source of the packet, and thus the combined method of Ruszczyk, Huang, and FOLDOC, which sorts packets based on priority, will necessarily sort them by source as well.

14. In reference to Claim 24, Ruszczyk, Huang, and FOLDOC teach the limitations as in Claim 17 above. Ruszczyk further teaches routing upstream packets having associated identifiers with different values to different upstream buffers of said plurality of upstream buffers (See Figure 4, Column 3 Lines 55-58, Column 5 Lines 65-67, Column 6 Line 1, and Column 6 Lines 10-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the packet scheduling method of Ruszczyk with the priority based on source of Huang and the FIFO queue of FOLDOC, resulting in the invention of Claim 24, in order to insure that there is efficient utilization of the communication line and that each competing source has access to the communication line (See Column 2 Lines 24-31 of Huang); and to allow communication between a sender and a receiver that are not synchronized (See entry 'first-in first-out' in FOLDOC). Because each source is assigned a different priority value, the priority value

is indicative of the source of the packet, and thus the combined method of Ruszczyk, Huang, and FOLDOC, which sorts packets based on priority, will necessarily sort them by source as well.

15. Claims 4, 12, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruszczyk, Huang, and FOLDOC as applied to Claims 3 and 19 above, and further in view of Japanese Patent Number JP 10341240 A to Taniguchi ("Taniguchi") and US Patent Number 4,677,612 to Olson et al. ("Olson").

16. In reference to Claim 4, Ruszczyk, Huang, and FOLDOC teach the limitations as applied to Claim 3 above. Ruszczyk, Huang, and FOLDOC do not teach that said predetermined criteria include: arrival times of each of said plurality of upstream packets and each of said plurality of downstream packets; and transaction types of each of said plurality of upstream packets and each of said plurality of downstream packets. Taniguchi teaches a device that numbers input packets according to arrival time and outputs the packets according to said number (See Abstract). Olson teaches a system wherein a station on a communication line transmits a packet based on the type of packet (See Column 2 Lines 21-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Ruszczyk, Huang, and FOLDOC with the transmission of packets based on arrival time of Taniguchi and the transmission of packets based on packet type of Olson, resulting in the invention of Claim 4, in order to

provide a device that provides outputs of packets in the arrival time order of the packets (See Abstract of Taniguchi) and thus serve as a FIFO device which can allow communications between a sender and a receiver that are not synchronized (See entry 'first-in first-out' in FOLDOC); to ensure a uniform distribution of traffic during the traffic cycle (See Column 2 Lines 26-27 of Olson); and to reduce overhead in the communications system (See Column 2 Lines 38-41 of Olson).

17. In reference to Claim 12, Ruszczyk, Huang, and FOLDOC teach the limitations as applied to Claim 11 above. Ruszczyk, Huang, and FOLDOC do not teach that said predetermined criteria include: arrival times of each of said plurality of upstream packets and each of said plurality of downstream packets; and transaction types of each of said plurality of upstream packets and each of said plurality of downstream packets. Taniguchi teaches a device that numbers input packets according to arrival time and outputs the packets according to said number (See Abstract). Olson teaches a system wherein a station on a communication line transmits a packet based on the type of packet (See Column 2 Lines 21-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Ruszczyk, Huang, and FOLDOC with the transmission of packets based on arrival time of Taniguchi and the transmission of packets based on packet type of Olson, resulting in the invention of Claim 12, in order to provide a device that provides outputs of packets in the arrival time order of the packets (See Abstract of Taniguchi) and thus serve as a FIFO device which can allow

communications between a sender and a receiver that are not synchronized (See entry 'first-in first-out' in FOLDOC); to ensure a uniform distribution of traffic during the traffic cycle (See Column 2 Lines 26-27 of Olson); and to reduce overhead in the communications system (See Column 2 Lines 38-41 of Olson).

18. In reference to Claim 20, Ruszczyk, Huang, and FOLDOC teach the limitations as applied to Claim 19 above. Ruszczyk, Huang, and FOLDOC do not teach that said predetermined criteria include: arrival times of each of said plurality of upstream packets and each of said plurality of downstream packets; and transaction types of each of said plurality of upstream packets and each of said plurality of downstream packets. Taniguchi teaches a device that numbers input packets according to arrival time and outputs the packets according to said number (See Abstract). Olson teaches a system wherein a station on a communication line transmits a packet based on the type of packet (See Column 2 Lines 21-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the method of Ruszczyk, Huang, and FOLDOC with the transmission of packets based on arrival time of Taniguchi and the transmission of packets based on packet type of Olson, resulting in the invention of Claim 20, in order to provide a method that provides outputs of packets in the arrival time order of the packets (See Abstract of Taniguchi) and thus serve as a FIFO which can allow communications between a sender and a receiver that are not synchronized (See entry 'first-in first-out' in FOLDOC); to ensure a uniform distribution of traffic during the traffic

cycle (See Column 2 Lines 26-27 of Olson); and to reduce overhead in the communications system (See Column 2 Lines 38-41 of Olson).

19. Claims 5, 13, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruszczyk, Huang, and FOLDOC as applied to Claims 1 and 17 above, and further in view of US Patent Number 6,170,025 to Drottar et al. ("Drottar").

20. In reference to Claim 5, Ruszczyk, Huang, and FOLDOC teach the limitations as applied to Claim 1 above. Ruszczyk, Huang, and FOLDOC do not teach a local node bridge circuit configured to translate a peripheral bus transaction into an additional upstream packet and to forward said additional upstream packet upstream. Drottar teaches a bridge circuit that translates data from a peripheral device into network packets (See Figure 3 Number 320 and Column 5 Lines 8-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Ruszczyk, Huang, and FOLDOC with the bridge circuit of Drottar, resulting in the invention of Claim 5, in order to allow peripheral devices that do not use packet based communications to communicate over a packet network (See Column 4 Lines 42-55 and Column 5 Lines 11-16 of Drottar) and thus allow I/O systems to be remotely located from the computers (See Column 4 Lines 19-22 of Drottar).

21. In reference to Claim 13, Ruszczyk, Huang, and FOLDOC teach the limitations as applied to Claim 9 above. Ruszczyk, Huang, and FOLDOC do not teach a local node bridge circuit configured to translate a peripheral bus transaction into an additional upstream packet and to forward said additional upstream packet upstream. Drottar teaches a bridge circuit that translates data from a peripheral device into network packets (See Figure 3 Number 320 and Column 5 Lines 8-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Ruszczyk, Huang, and FOLDOC with the bridge circuit of Drottar, resulting in the invention of Claim 13, in order to allow peripheral devices that do not use packet based communications to communicate over a packet network (See Column 4 Lines 42-55 and Column 5 Lines 11-16 of Drottar) and thus allow I/O systems to be remotely located from the computers (See Column 4 Lines 19-22 of Drottar).

22. In reference to Claim 21, Ruszczyk, Huang, and FOLDOC teach the limitations as applied to Claim 17 above. Ruszczyk, Huang, and FOLDOC do not teach a local node bridge circuit configured to translate a peripheral bus transaction into an additional upstream packet and to forward said additional upstream packet upstream. Drottar teaches a bridge circuit that translates data from a peripheral device into network packets (See Figure 3 Number 320 and Column 5 Lines 8-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the method of Ruszczyk, Huang, and FOLDOC with the

bridge circuit of Drottar, resulting in the invention of Claim 21, in order to allow peripheral devices that do not use packet based communications to communicate over a packet network (See Column 4 Lines 42-55 and Column 5 Lines 11-16 of Drottar) and thus allow I/O systems to be remotely located from the computers (See Column 4 Lines 19-22 of Drottar).

23. Claims 6, 14, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruszczyk, Huang, FOLDOC, and Drottar as applied to Claims 5, 13, and 21 above, and further in view of US Patent Number 6,108,345 to Zhang ("Zhang").

24. In reference to Claim 6, Ruszczyk, Huang, FOLDOC, and Drottar teach the limitations as applied to Claim 5 above. Ruszczyk, Huang, FOLDOC, and Drottar do not teach a dedicated node stream buffer coupled to said local node bridge circuit and configured to store said additional upstream packet. Zhang teaches a buffer coupled to a bridge for storing a packet to be transmitted (See Figure 3 Number 110 and Column 4 Lines 37-38).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Ruszczyk, Huang, FOLDOC, and Drottar with the packet buffer coupled to a bridge of Zhang, resulting in the invention of Claim 6, in order to allow the communication lines connected to the bridge to operate at different speeds (See Column 4 Lines 37-38 of Zhang).

25. In reference to Claim 14, Ruszczyk, Huang, FOLDOC, and Drottar teach the limitations as applied to Claim 13 above. Ruszczyk, Huang, FOLDOC, and Drottar do not teach a dedicated node stream buffer coupled to said local node bridge circuit and configured to store said additional upstream packet. Zhang teaches a buffer coupled to a bridge for storing a packet to be transmitted (See Figure 3 Number 110 and Column 4 Lines 37-38).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Ruszczyk, Huang, FOLDOC, and Drottar with the packet buffer coupled to a bridge of Zhang, resulting in the invention of Claim 14, in order to allow the communication lines connected to the bridge to operate at different speeds (See Column 4 Lines 37-38 of Zhang).

26. In reference to Claim 22, Ruszczyk, Huang, FOLDOC, and Drottar teach the limitations as applied to Claim 21 above. Ruszczyk, Huang, FOLDOC, and Drottar do not teach a dedicated node stream buffer coupled to said local node bridge circuit and configured to store said additional upstream packet. Zhang teaches a buffer coupled to a bridge for storing a packet to be transmitted (See Figure 3 Number 110 and Column 4 Lines 37-38).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Ruszczyk, Huang, FOLDOC, and Drottar with the packet buffer coupled to a bridge of Zhang, resulting in the invention of Claim

22, in order to allow the communication lines connected to the bridge to operate at different speeds (See Column 4 Lines 37-38 of Zhang).

Response to Arguments

27. Applicant's arguments filed 6 May 2004 have been fully considered but they are not persuasive.

28. In response to Applicant's argument that "since, in the Applicant's invention, the data may be reordered within a given buffer depending on not only arrival time but also packet transaction type, thus the buffers need not be FIFOs" (See Page 13), the Examiner notes that the features upon which applicant relies (i.e., that data may be reordered depending on arrival time and packet transaction type) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The Examiner further notes that, as shown above, the FOLDOC reference is used to show the limitation that packets are transmitted from the plurality of upstream buffers "dependent upon an order of receipt within said plurality of upstream buffers".

29. In response to Applicant's argument that "since, in the teachings of Ruszczyk, the sorted packets may be moved from one queue to another, the Applicant's invention

would be rendered ineffective or inoperable" (See Page 13), it is noted that the features upon which applicant relies (i.e., that the sorted packets may not be moved from one queue to another) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Further, MPEP 2111.03 states:

> The transitional term "comprising", which is synonymous with "including," "containing," or "characterized by," is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. See, e.g., Genentech, Inc. v. Chiron Corp., 112 F.3d 495, 501, 42 USPQ2d 1608, 1613 (Fed. Cir. 1997) ("Comprising" is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim.); Moleculon Research Corp. v. CBS, Inc., 793 F.2d 1261, 229 USPQ 805 (Fed. Cir. 1986); In re Baxter, 656 F.2d 679, 686, 210 USPQ 795, 803 (CCPA 1981); Ex parte Davis, 80 USPQ 448, 450 (Bd. App. 1948) ("comprising" leaves "the claim open for the inclusion of unspecified ingredients even in major amounts").

30. Applicant's arguments, see Pages 9-13, filed 6 May 2004, with respect to the rejection(s)of claim(s) 1, 9, and 17 under 35 USC §103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Ruszczyk, Huang, and FOLDOC.

Drawings

31. The drawings were received on 7 May 2004. These drawings are acceptable.

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Thomas J. Cleary whose telephone number is 703-305-5824. The Examiner can normally be reached on Monday-Thursday (7-4), Alt. Fridays (7-3).

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Mark H. Rinehart can be reached on 703-305-4815. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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MARK H. RINEHART
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

TJC

Thomas J. Cleary
Patent Examiner
Art Unit 2111